CONTENTS

OCTOBER

VOLUME 64, NUMBER 1

1987

CONTENTS

General Papers		
Duan Jian-zhong and Wu Zi-qin	1	Appearance of negative fractal-like structures in Pd – Si alloy films
B. J. Pronk, H. B. Brom, A. Ceriotti and G. Longoni	7	Physical properties of metal cluster compounds III: NMR study of platinum carbonyl clusters
D. W. Koon and T. G. Castner	11	Variable-range hopping and the Hall coefficient in Si:As
C. Rincón	15	A model for the band gap shrinkage in the chalcopyrite semiconductor CuInSe ₂
C. O. Rodriguez and K. Kunc	19	Ionic bonding and valence-charge density in lithium hydride
A. Gupta, S. K. Agarwal, B. Jayaram,A. V. Narlikar, S. Ramakrishnan andG. Chandra	23	Magnetoresistivity behaviour of heavy Fermion CeCu ₆ system
E. W. Fenton	27	Possible evidence for an incommensurate spin density wave in the Stanford electron tunnelling studies into LaSrCuO
M. O. Henry, K. G. McGuigan and R. C. Barklie	31	Bound exciton recombination at $Mn-Zn$ pair centres in silicon
H. Kobori, T. Ohyama and E. Otsuka	35	Quantum limit cyclotron resonance in Ge acoustic deformation potential scattering
H. Lock, R. A. Wind, G. E. Maciel and N. Zumbulyadis	41	²⁹ Si dynamic nuclear polarization of dehydrogenated amorphous silicon
A. Kobayashi, R. Kato, H. Kobayashi, T. Mori and H. Inokuchi	45	The organic π-electron metal system with interaction through mixed-valence metal cation: electronic and structural properties of radical salts of dicyano – quinodiimine, (DMe – DCNQI) ₂ Cu and (MeCl – DCNQI) ₂ Cu
R. Plumier and M. Sougi	53	Observation of a first order transition in the ferrimagnetic spinel MnV ₂ O ₄
B. Chenevier, J. L. Soubeyroux, M. Bacmann, D. Fruchart and R. Fruchart	57	The high temperature orthorhombic hexagonal phase transformation of FeMnP
A. Twardowski, P. Głód, W. J. M. de Jonge and M. Demianiuk	63	The study of s-d exchange interaction in ZnFeSe semimagnetic semiconductor

J. Ghanbaja, C. Goulon, J. F. Marêché and D. Billaud

R. Caciuffo, G. H. Lander, J. C. Spirlet,

J. M. Fournier and W. F. Kuhs

Superconductors and Superconductivity		
G. A. Held, P. M. Horn, C. C. Tsuei, S. J. LaPlaca, J. G. Bednorz and K. A. Müller	75	X-ray scattering study of the temperature dependence of the structure of the high T_c superconductor $La_{1.8}Sr_{0.2}CuO_4$
A. Bezinge, J. L. Jorda, A. Junod and J. Muller	79	Magnetization of the extreme type II superconductor $YBa_2Cu_3O_7$ with $\kappa>100$
F. Zuo, B. R. Patton, T. W. Noh, SI. Lee, Y. Song, J. P. Golben, XD. Chen, S. Y. Lee, J. R. Gaines, J. C. Garland and A. J. Epstein	83	Magnetic behavior of the high T_c composite compound of $Y_1Ba_2Cu_3O_{7-d}$ in the superconducting phase
B. Fisher, E. Polturak, G. Koren, A. Kessel, R. Fischer and L. Harel	87	The resistivity of Y ₁ Ba ₂ Cu ₃ O ₇ between 80 K and 1240 K
Karol I. Wysokiński	89	On the superconductivity in La-(Ba, Sr, Ca)-Cu-O systems
Sheng Yi, Sun Yin-long and Fu-sui Liu	93	LO strong coupling superconductivity theory
General Papers (contd.)		
R. Merlin	99	Subband-Landau-level coupling in tilted magnetic fields: exact results for parabolic wells
Zhao Tiesong and Jin Hanmin	103	Magnetization process related to the singular point detection signal observed at high fields on Pr ₂ Fe ₁₄ B and Nd ₂ Fe ₁₄ B
B. Oczkiewicz, A. Twardowski and M. Demianiuk	107	Intra-manganese absorption and luminescence in $Zn_{1-x}Mn_xSe$ semimagnetic semiconductor
E. A. de Andrada e Silva and I. C. da Cunha Lima	113	Impurity bands in Ga _{1-x} Al _x As/GaAs quantum wells
R. Hrabański	117	EPR of Mn ²⁺ in single crystals of [Zn(H ₂ O) ₆]SnF ₆ and [Co(H ₂ O) ₆]SnF ₆ ; Co ²⁺ spin-lattice relaxation time
L. C. Davis and H. Holloway	121	The effects of short-range and long-range order on the energy gaps of $(GaAs)_{1-x}Ge_{2x}$ and $(GaSb)_{1-x}Ge_{2x}$
K. Tanaka and H. Murayama	125	Pressure effects on electronic structures of amorphous semiconductors
C. Sénémaud, F. Vergand, C. Bonnelle,O. Thomas, J. P. Sénateur and R. Madar	129	Experimental study of partial densities of states in MoSi ₂
T. Osada, N. Miura, I. Oguro and G. Saito	133	Electric-field-dependence of the small-period oscillation of the magnetoresistance in (TMTSF) ₂ ClO ₄
R. Pirc, P. Prelovšek and B. Tadić	137	Zero-temperature transition in a classical transverse Ising spin glass
M. A. Tamor	141	Transport and recombination via thermally activated random walks
E. Canessa, M. J. Grimson and M. Silbert	145	Equilibrium and elastic properties of double Yukawa solids

69 EPR studies of binary alkali metal doped polyacetylene

149 A search for anharmonic effects in NpO2 at low temperature

by neutron diffraction

V. Drago and E. Baggio Saitovitch	153	Short range order in vapor quenched amorphous Mn _x Sn _{1-x} alloys using in situ 119Sn Mössbauer spectroscopy
J. K. Rath and S. Radhakrishna	157	EPR studies of MoO ₄ ³⁻ centres in ADP crystals
J. George, T. I. Palson and K. S. Joseph	161	High mobility polycrystalline SnTe:Ge films
V. B. Bobrov and S. A. Trigger	165	Theory of pseudopotential in the basis of completely orthogonalized plane waves
	i	Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications
OCTOBER VO	OLUM	E 64, NUMBER 2 1987
	C	ONTENTS
General Papers	1.50	
J. Langen, G. Jackel, W. Schlabitz, M. Veit and D. Wohlleben	169	Lattice parameter and resistivity anomalies of CeRh ₃ B ₂
P. Deniard, P. Chevalier, L. Trichet, Y. Chabre and J. Pannetier	175	Dependence of the physical properties of pure and lithium intercalated zirconium diselenide on the host lattice stoichiometry
M. Underweiser, M. Maki, B. Alavi and G. Grüner	181	Impurity pinning studies in Nb _{1-x} Ta _x Se ₃ alloys
A. Borodziuk-Kulpa, B. Nysten, M. Lambrich and J-P. Issi	nt 185	Weak-localization and interaction effects in thin vanadium films
J. M. Sanz and C. Palacio	189	N ₂₃ -core losses and autoionization emissions of clean and oxygen exposed zirconium
G. Kalkowski, G. Kaindl, S. Bertram, G. Schmiester, J. Rebizant, J. C. Spirlet and O. Vogt	193	3 5f localization in light actinide compounds studied by L ₃ -edge X-ray absorption
R. W. Jansen and O. F. Sankey	197	Prediction of equilibrium defect concentrations in GaAs and ZnSe
W. Brenig	203	Metamagnetism in heavy-fermion systems
Superconductors and Superconductivity		
F. Li, Q. Li, G. Lu, K. Wu, Y. Zhou, C. Li and D. Yin	209	9 Specific heat studies of high- T_c superconductor YBa ₂ Cu ₃ O _{7-x}
Chen Chang-feng, Xie Yuan-nan and Zhang Li-yuan	213	3 Josephson supercurrent in BCS superconductor – induced surface-layer heavy fermion superconductor junction
E. A. Hayri, K. V. Ramanujachary, S. Li, M. Greenblatt, S. Simizu and S. A. Friedberg		Superconductivity in the Ln-Ba-Cu-O system (Ln = Y, Ho, Er)
C. Allgeier, J. S. Schilling, H. C. Ku, P. Klavinš and R. N. Shelton	227	The magnetic susceptibility of the high temperature superconductor La _{1.85} Sr _{0.15} CuO ₄ under hydrostatic pressure
MH, Tsai, R. V. Kasowski and J. D. Dow	231	Relaxation of the non-polar (1010) surfaces of wurtzite Al N and ZnS

R. Escudero, T. Akachi, R. Barrio, 235 Measurements on the superconductor high-T. new L. E. Rendón-DiazMirón, C. Vázquez, Nd - Ba - Cu oxide system L. Baños, G. González and F. Estrada H. Bakker, D. O. Welch and 237 Theory of the orthorhombic-tetragonal phase transition in O. W. Lazareth, Jr YBa2Cu3O7-x S. B. Oseroff, D. C. Vier, J. F. Smyth, 241 Electron paramagnetic resonance, electrical resistivity, and C. T. Salling, S. Schultz, Y. Dalichaouch, magnetization studies in the high T_c superconductors B. W. Lee, M. B. Maple, Z. Fisk, $EuBa_2Cu_3O_{9-x}$ and $EuBa_2(Cu_{1-y}M_y)_3O_{9-x}$ (M = Cr, Mn, Fe, J. D. Thompson, J. L. Smith and E. Zirngiebl Co, Ni, or Zn) C. Ayache, B. Barbara, E. Bonjour, 247 Thermal and magnetic properties of some YBa₂Cu₃O_{7-d} R. Calemczuk, M. Couach, J. H. Henry and J. Rossat-Mignod J. R. Cooper, L. W. Zhou, B. Dunn, 253 Traces of superconductivity in sintered La₂CuO_{4-v} C. T. Chu, B, Alavi and G. Grüner A. Brokman 257 Shear transformation and twin formation in YBa₂Cu₃O₇ F. Gross, K. Andres and M. Weger 261 Superconductivity of Hg₃₋₆AsF₆: effect of annealing and anisotropy H. Lütgemeier and M. W. Pieper 267 NMR and NQR in the high T_c superconductors (La_{1-x}Sr_x)₂CuO₄ and Ba₂YCu₃O₇ General Papers (contd.) F. J. Berry, P. M. Gogarty and M. H. Loretto 273 Twin boundaries in antimony (V)-doped rutile titanium (IV) oxide i Erratum iii Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications **OCTOBER** VOLUME 64, NUMBER 3 1987 CONTENTS General Papers H. R. Rechenberg, M. Bogé, C. Jeandey, 277 155Gd and 161Dy Mössbauer study of R₁₊₄Fe₄B₄ alloys (R = Gd, J. L. Oddou, J. P. Sanchez and P Tenaud Dy) N. A. Cade, S. H. Parmar, N. R. Couch and 283 Indirect gap resonant tunnelling in GaAs/AlAs M. J. Kelly J. G. Booth, G. Srinivasan, C. E. Patton and 287 Spin wave stiffness parameters in lithium – zinc ferrites C. M. Srivastava Minoru Kumeda, Toyokazu Ohta and 291 Dependence of the photoluminescence fatigue on the Tatsuo Shimizu illumination temperature for a-Si:H

Superconductors and Superconductivity

M. Čopič, D. Mihailović, M. Zgonik, M Prester, K. Biljaković, B. Orel and N. Brničević

297 Raman and infrared study of lattice vibrations in the high- T_c ceramic superconductor La_{2-x} Sr_xCuO₄

		VII
A. W. Hewat, J. J. Capponi, C. Chaillout, M. Marezio and E. A. Hewat	301	Structures of superconducting Ba ₂ YCu ₃ O _{7-ð} and semiconducting Ba ₂ YCu ₃ O ₆ between 25°C and 750°C
H. Riesemeier, Ch. Grabow, E. W. Scheidt, V. Müller, K. Lüders and D. Riegel	309	NQR investigations of the high-T _c superconductor Ba ₂ YCu ₃ O ₇
E. Ortí, Ph. Lambin, JL. Brédas, JP. Vigneron, E. G. Derouane, A. A. Lucas and JM. André	313	Band structure of $YBa_2Cu_3O_x$ in relation with the oxygen vacancy distribution
W. Lai and P. N. Butcher	317	The effect of intra-molecular vibrations on the transition temperature of high T_c superconductors
G. J. Cui, X. F. Meng, S. G. Wang, K. Shao, H. M. Jiang, Y. D. Dai, Y. Zhang, R. P. Peng, Z. L. Bao, F. R. Wang, S. Z. Wang, Z. Y. Ye, C. Y. Li, K. Wu and D. L. Yin	321	Josephson effects observed in constricted Y-Ba-Cu-O films at liquid nitrogen temperature
Meng Xian-Ren, Ren Yan-Ru, Lin Ming-Zhu, Tu Qing-Yun, Lin Zhen-Jin, Sang Li-Hua, Ding Wei-Qing, Fu Min-Hua, Meng Qing-Yun, Li Chang-Jiang, Li Xiu-Hai, Qiu Guan-Liang and Chen Mou-Yuan	325	Zero resistance at 148.5 K in fluorine implanted Y-Ba-Cu-O compound
V. Bayot, C. Dewitte, JP. Erauw, X. Gonze, M. Lambricht and JP. Michenaud	327	Thermal expansion of a YBa ₂ Cu ₃ O ₇ superconducting ceramic
A. C. Momin, M. D. Mathews, V. S. Jakkal, I. K. Gopalakrishnan, J. V. Yakhmi and R. M. Iyer	329	High temperature X-ray powder diffractometric studies of the superconducting compound $YBa_2Cu_3O_{7-x}$ from room temperature to 1300 K in air
Takehiko Mori and Hiroo Inokuchi	335	Superconductivity in (BEDT-TTF) 3Cl22H2O
K. H. Lii, M. F. Tai, H. C. Ku and S. L. Wang	339	High T_c superconductivity in $Y_xBa_{1-x}CuO_{3-d}$
General Papers (contd.) G. H. F. Brits and P. de V du Plessis	345	Critical behaviour near the incommensurate – commensurate phase transition in dysprosium
Jagriti Singh and R. C. Budhani	349	Nitrogen doping in hydrogenated amorphous silicon
M. Menon and R. E. Allen	353	Time-dependent chemisorption on a semiconductor surface
D. J. Cookson, T. R. Finlayson and M. M. Elcombe	357	Phonon dispersion relations for potassium thiocyanate
R. Gagnon, G. Bernier, S. Jandl and M. Aubin	361	Back reflection effect at the fundamental edge of semiconductors in modulated reflectivity measurements
T. Shigenari, K. Abe, T. Shionoya, T. Haga and M. Sugiyama	367	Light scattering from E -symmetry amplitudon in the incommensurate phase of quartz
S. Goel and A. Kumar	371	Anomalous rise of photocurrent in amorphous thin films of $Ge_{22}Se_{78}$
R. Koh, S. Hayashi and K. Yamamoto	375	Optimum surface roughness for surface enhanced Raman scattering
T. G. Andersson, Z. G. Chen, V. D. Kulakovskii, A. Uddin and J. T. Vallin	379	Band edge offsets in strained (InGa)As - (AlGa)As heterostructures

N. B. Brookes, G. Thornton and F. M. Quinn 383 SrTiO₃ (100) step sites as catalytic centers for H₂O dissociation

i Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications

OCTOBER

VOLUME 64, NUMBER 4

1987

	C	ONTENTS
General Papers		
L. C. Porter, Hau H. Wang, M. A. Beno, K. D. Carlson, C. M. Pipan, R. B. Proksch and J. M. Williams	387	The X-ray crystal structure and physical properties of (BEDT-TTF)AuBr ₂ Cl ₂
N. Orita, T. Sasaki and K. Niizeki	391	Band structures and cohesive properties of high pressure phases of solid iodine
M. Kurdi, AM. Marie and M. Danot	395	The crystallographic mechanism of the NbS3 to $Nb_{1.12}S_2$ transition
B. Buffat and M. H. Tuilier	401	X-ray absorption edges of iron and cobalt with six-fold coordination in oxides: influence of site distortion and oxidation state
M. Quintero, V. Sagredo, R. Tovar, P. Grima and G. S. Perez	407	Crystallographic and magnetic properties of the system (AgIn Cd_2) _x (CuIn) _{2y} Mn _{4z} Te ₄ (x+y+z=1) with x=3y
P. Bogdanski, F. Murray and J. P. Piel	411	InP-SiO ₂ metal-insulator-semiconductor structure parameters investigated with DLTS and other capacitance techniques
P. Parilla, N. Carey and A. Zettl	417	Stress-dependent magnetoresistance in NbSe ₃
K. Schwarz	421	Symmetry breaking in La _{2-x} Ba _x CuO ₄
J. C. Lasjaunias, J. L. Tholence, C. Berger and D. Pavuna	425	On magnetic interactions in quasicrystalline $Al_{86}Mn_{14}$ and $Al_{75}Mn_{20}Si_5$ alloys
A. C. Redfield and J. D. Dow	431	Theory of Raman spectra of correlated substitutional alloys
B. Villeret and M. Nechtschein	435	Growth of polyaniline films: evidence for fractal surface
S. M. Wasim and A. Noguera	439	Thermal conductivity of CuGaTe ₂
H. H. Huang, Y. B. Fan, S. A. Solin, J. M. Zhang, P. C. Eklund, J. Heremans and G. G. Tibbetts	443	A 2D metal – nonmetal transition in potassium – ammonia liquid monolayers in graphite
J. I. Lee, B. B. Goldberg, M. Heiblum and P. J. Stiles	447	The frequency dependence of the diagonal conductivity of a 2DEG in GaAs heterostructure in the quantum Hall regime
J. Vignolo, A. Ibarra and M. Jiménez de Castro	451	Effects of quenching on the thermoluminescence of MgO
M. A. Ramos, S. Vieira and J. M. Calleja	455	Temperature dependence of the polarization of the dominant Raman lines in B ₂ O ₃ and (B ₂ O ₃) _{0.84} (Na ₂ O) _{0.16} glasses

J. Wagner, M. Ramsteiner and R. C. Newman 459 Defect induced Raman transition in non-stoichiometric Ga-

antisite?

rich GaAs: a pseudolocalized vibrational mode of the GaAs

Superconductors and Superconductivity Ruan Yaozhong, Hu Xuelong, Zhao Yong, Qian Yitai, Chen Zuyao, Wang Ruiping and Zhang Qirui	467	Transport properties in single phase superconductor $Ba_2YCu_3O_{9-\delta}$
G. Burns, F. H. Dacol, P. Freitas, T. S. Plaskett and W. König	471	Raman and infrared results on YBa ₂ Cu ₃ O _{7-x} type materials
 A. Wittlin, R. Liu, M. Cardona, L. Genzel, W. König, W. Bauhofer, Hj. Mattausch, A. Simon and F. García-Alvarado 	477	Temperature dependence of the Raman and infrared phonons of MBa ₂ Cu ₃ O ₇₋₄ -type superconductors
Y. Okabe, Y. Suzumura, T. Sasaki and H. Katayama-Yoshida	483	Enhancement of two-dimensional superconducting T_c by one-dimensional charge density wave instability — theory of the high T_c superconductor $Y - Ba - Cu - O$
Duan Hong-min, Lu Li, Wang Xie-mei, Lin Shu-yuan and Zhang Dian-lin	489	Hall effect of the high T_c superconducting $Y - Ba - Cu - O$ compound
Zhao Yuechao, Zhang Shuyuan, Zhou Guien, Wu Ziqin, Chen Zuyao, Qian Yitai and Zhang Qirui	493	A TEM study of phases in the superconducting $Y(Yb) - Ba - Cu - O$ system
C. C. Torardi, E. M. McCarron, P. E. Bierstedt, A. W. Sleight and D. E. Cox	497	Topochemical reduction of the high temperature superconductor YBa ₂ Cu ₃ O ₅ : the structure of YBa ₂ Cu ₃ O ₆ by neutron diffraction
Y. Horie, Y. Terashi, H. Fukuda, T. Fukami and S. Mase	501	Ultrasonic studies of the high T_c superconductor $Y_2Ba_4Cu_6O_{14}$
J. A. Sanjurjo, E. López-Cruz, R. S. Katiyar, I. Torriani, C. Rettori, D. Davidov and I. Felner	505	Raman measurements and lattice dynamics in the high T_c superconductor $YBa_2Cu_3O_7$
J. E. Drumheller, G. V. Rubenacker, W. K. Ford, J. Anderson, M. Hong, S. H. Liou, J. Kwo and C. T. Chen	509	Low magnetic field superconducting phase diagram of the high- T_c YBa ₂ Cu ₃ O _{9-d}
P. Strobel, J. J. Capponi, M. Marezio and P. Monod	513	High-temperature oxygen defect equilibrium in superconducting oxide $YBa_2Cu_3O_{7-x}$
E. A. Hewat, M. Dupuy, A. Bourret, J. J. Capponi and M. Marezio	517	High resolution electron microscopy structure of Ba ₂ YCu ₃ O ₇ twin boundaries
H. Eschrig and G. Seifert	521	Electronic structure calculations for oxocuprate clusters of the high- T_c superconducting phases
A. de Visser, F. R. de Boer, A. A. Menovsky and J. J. M. Franse	527	High-field transitions in URu ₂ Si ₂ observed by magnetoresistivity and magnetization experiments
Zidan Wang, Nanzhi Zou, Jinzhong Pang and Changde Gong	531	A possible reason of high T_c in oxide superconductor
E. Czerwosz, J. Bukowski, P. Przysłupski, J. Igalson, A. Pajączkowska and J. Raułuszkiewicz	535	Raman spectra of the high- T_c superconductor $Y - Ba - Cu - O$
Shousheng Yan, Peixiang Lu, Hong Ma, Qiuping Jia and Xu Wang	537	Thermoelectric power in three La-Ba-Cu oxides

General Papers (contd.)

G. V. Sokolov, V. I. Arkhipov and A. I. Rudenko	549	The effect of disordered regions on semiconductor Joule heating
E. A. Goremychkin, I. Natkaniec and F Mühle	553	Inelastic magnetic neutron scattering from the heavy fermion system CeAl ₃
W. Maciejewski and A. Duda	557	The Curie temperature of compositionally modulated magnetic films with interdiffusion zones
P. Sathyasainath Prasad and S. Radhakrishna	561	Electronic transitions of nickel (II) ions in cadmium ammonium sulphate hexahydrate single crystals
K. Kumazaki	567	Optical damping constant due to free carriers in narrow gap semiconductors
K. Ishibashi, Y. Takagaki, K. Gamo, S. Namba, S. Ishida, K. Murase, Y. Aoyagi and M. Kawabe	573	Observation of Aharonov – Bohm magnetoresistance oscillations in selectively doped GaAs – AlGaAs submicron structures
G. A. Toombs, F. W. Sheard, D. Neilson and L. J. Challis	577	Phonon emission by a hot two-dimensional electron gas in a quantizing magnetic field
Byung-Gook Yoon and Choochon Lee	583	On the zero temperature statistics for the density of gap states of hydrogenated amorphous silicon
E. Burzo, I. Creangă and M. Ursu	585	On the induced cobalt moment in RCo ₄ B-type compounds
Shang-Fen Ren and R. E. Allen	589	Theory of defect complexes at semiconductor surfaces
Lu Xiao-jia, Xie Lei-ming and Lei Xiao-ling	593	Electron density correlation of a superlattice with wave function overlaps
Y. Iwasa, J. S. Lee and N. Miura	597	Free carrier effects on exciton spectra in p-type modulation- doped GaAs – AlGaAs quantum wells in high magnetic fields
C. Jagadish, A. L. Dawar and P. C. Mathur	603	Donor action of indium and bismuth in Pb _{0.8} Sn _{0.2} Te thin films
M. Munowitz and M. Mehring	605	Liouville space revisited: excitation and relaxation of multiple- quantum nuclear spin coherence in dipolar systems
R. Brydson, B. G. Williams, W. Engel, H. Sauer, E. Zeitler and J. M. Thomas	609	Electron energy-loss spectroscopy (EELS) and the electronic structure of titanium dioxide
G. Quirion, M. Poirier, M. Y. Ogawa and B. M. Hoffman	613	Microwave dielectric properties of Cu(tatbp)I
Sang-Ok Yoon, Hyung-Jin Jung and Ki-Hyun Yoon	617	Contact resistance of the electrodes on semiconducting ceramics
Chin-Ching Tzeng and Juh-Tzeng Lue	621	Optical second-harmonic generation of modulation doped Ga _{0.8} Al _{0.2} As film grown by molecular beam epitaxy
P. J. Edwardson, V. Katkanant, J. R. Hardy and L. L. Boyer	625	Ab initio explanation of the incommensurate phase transition in BaMnF ₄
	i	Vol. 64, Author Index 1-4

ix Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications

CONTENTS

General	Papers
Ochel III	

- 631 A salute to Erwin Felix Bertaut
- Zeng Xun-yi and Yu Xiang-you
- 635 A Mössbauer spectroscopic study of 3d magnetism of R₂Fe₁₄B
- M. Gueramian, A. Bezinge, K. Yvon and J. Muller
- 639 Synthesis and magnetic properties of ternary carbides R₂Fe₁₄C (R = Pr, Sm, Gd, Tb, Dy, Ho, Er, Tm, Lu) with Nd₂Fe₁₄B structure type
- R. Sanjinés, A. Aruchamy and F. Lévy
- 645 Metal non metal transition in electrochromic sputtered iridium oxide films
- C. L. Ma and C. F. Schwerdtfeger
- 651 Ferromagnetic resonance studies of DC magnetron sputtered Co-Cr films
- Yinsheng Tang, Desheng Jiang and Klaus Ploog
- 655 Influence of photo-modulation on reflectance of hetero NIPI superlattices
- Masami Kumagai, Toshihide Takagahara and Eiichi Hanamura
- 659 Electronic structure and optical properties of GaP/AlP (001) superlattices
- C. Rincón
- 663 On the order disorder phase transition in ternary compounds

F. Jona and P. M. Marcus

667 Re-examination of the Fe{001}1 × 1-O structure

H. Yasuhara and Y. Ousaka

673 Landau interaction function and effective mass of an electron liquid

Superconductors and Superconductivity

- Zi-zhao Gan, Yuan-dong Dai and Ru-shan Han 679 A physical model for high T_c superconductivity of the oxygen deficient perovskite Y Ba Cu O
- Chen Zhaojia, Zhao Yong, Yang Hongshun, Chen Zuyao, Zheng Dongnin, Qian Yitai, Wu Baimei and Zhang Qirui
- 685 Specific heat anomaly of single phase YBa₂Cu₃O_{7-d} at superconducting transition temperature
- Fan Changxin, Sun Lin, Miao Bocai and Liu Jun
- 689 Observation of AC Josephson effect in Y-Ba-Cu-O devices at liquid nitrogen temperature
- Chin Lin, Guo Lu, Zun-Xiao Liu, Yun-Xi Su Jian Lan, Sun-Qi Feng, Chong-De Wei, Xing Zhu, Guo-Zhong Li, Zhao-Hui Shen, Zi-Zhao Gan, Feng-Xiang Chen, Jian-Wei Chen, Neng Li and Jing-Sheng Liu
- Chin Lin, Guo Lu, Zun-Xiao Liu, Yun-Xi Sun, 691 Antiferromagnetic ordering observed in the high T_c Jian Lan, Sun-Qi Feng, Chong-De Wei, superconductor $GdBa_2Cu_3O_{7-x}$
- H. H. A. Smit, M. W. Dirken, R. C. Thiel and L. J. de Jongh
- 695 155Gd Mössbauer measurements on the ceramic superconductor GdBa₂Cu₃O₇
- J. van den Berg, C. J. van der Beek, P. H. Kes, J. A. Mydosh, G. J. Nieuwenhuys and L. J. de Jongh
- 699 Superconductivity and 2-dimensional magnetism in orthorhombic and tetragonal GdBa₂Cu₃O_{7-d}
- G. J. Kramer, H. B. Brom, J. van den Berg, P. H. Kes and D. J. W. IJdo
- 705 89Y NMR line splitting in the high T_c superconductor YBa₂Cu₃O₇
- X. Obradors, A. Labarta, J. Tejada, F. García-Alvarado, E. Morán, M. Vallet, J. M. González-Calvet and M. A. Alario
- 707 Magnetic properties of Ba₂SmCu₃O_{9-x} high T_c superconductor

W. Ossau, E. Bangert and G. Weimann	711	Radiative recombination of a 3D-electron with a 2D-hole in p- type GaAs/(GaAl)As heterojunctions
J. F. Carolan, W. N. Hardy, R. Krahn, J. H. Brewer, R. C. Thompson and A. C. D. Chaklader	717	The superconducting glass transition in YBa ₂ Cu ₃ O ₇₋₈
S. Perkowitz, G. L. Carr, B. Lou, S. S. Yom, R. Sudharsanan and D. S. Ginley	721	Phonon, plasmon and gap behavior in superconducting high- T_c $Y_1Ba_2Cu_3O_7$ and $Gd_{1.5}Ba_{1.5}Cu_3O_7$
M. Cardona, L. Genzel, R. Liu, A. Wittlin, Hj. Mattausch, F. García-Alvarado and E. García-González	727	Infrared and Raman spectra of the MBa ₂ Cu ₃ O ₇ -type high- T_c superconductors
T. Mori, P. Wang, K. Imaeda, T. Enoki and H. Inokuchi	733	Structural and electrical properties of (BEDT-TTF), Hg, Br,11
Hoydoo You, R. K. McMullan, J. D. Axe, D. E. Cox, J. Z. Liu, G. W. Crabtree and D. J. Lam	739	A neutron diffraction study of a single crystal of YBa ₂ Cu ₃ O ₇₋₈
W. H. Li, C. H. Perry and J. B. Sokoloff	743	Neutron studies of "forbidden" magnons in Pt ₃ Mn: a three-dimensional metallic ferromagnet
D. S. Burbidge, S. K. Dew, B. T. Sullivan,N. Fortier, R. R. Parsons, P. J. Mulhern,J. F. Carolan and A. Chaklader	749	DC magnetron sputtering of high T_c superconducting thin films
K. Yamada, E. Kudo, Y. Endoh, Y. Hidaka, M. Oda, M. Suzuki and T. Murakami	753	The effect of the heat treatments on the antiferromagnetism in $La_2CuO_{4-\delta}$ single crystals
O. K. Antson, P. E. Hiismäki, H. O. Pöyry, A. T. Tiitta, K. M. Ullakko, V. A. Trunov and V. A. Ul'yanov	757	A high-resolution neutron powder diffraction study on high- T_c superconductor YBa ₂ Cu ₃ O ₇
N. T. Liang, K. H. Lii, Y. C. Chou, M. F. Tai and T. T. Chen	761	XPS studies of several high temperature superconductors: Y-Ba-Cu-O and La-Ba-Cu-O systems
General Papers (contd.)		
V. L. Berkovits, L. F. Ivantsov, I. V. Makarenko, T. A. Minashvili and V. I. Safarov	76	7 Optical transitions on (1 1 0) surfaces of III – V compounds
L. Forró, D. Schweitzer and H. Keller	77	The effect of disorder on the conduction electron spin resonance linewidth of the α and β phases of (BEDT-TTF) ₂ I ₃
A. Szász, J. Kojnok and E. Belin	77	5 Occupied electronic distributions of phosphorus in electroless deposited amorphous Ni – P alloys
B. Fernandez, F. Guillon and J. D. N. Cheek	e 77	9 Interpretation of ultrasonic attenuation in n-InSb at low temperatures
Y. Nakai, N. Kunitomi, M. Hagen, R. M. Nicklow and A. Onodera	78	3 A study of the isochoric frequency shift of the phonons in Al and Cu

		XIII
Yi-Chen Cheng	789	Enhancement of the sticking coefficient of H ₂ chemisorption on a stepped Ni(1 0 0) surface
Ludmila Roa, A. B. Vincent and N. V. Joshi	793	A model for the 2.1 eV emission band in $Zn_{1-x}Mn_xS$
A. M. Gillet, Y. Luspin and G. Hauret	797	Brillouin scattering in (NH ₄) ₂ ZnCl ₄ above room temperature
Krishna B. Pandeya, Rajendra Singh, Chandra Prakash and J. S. Baijal	801	Effect of doping on the spin state of a tris (dithiocarbamato)iron(III) complex
D. C. Look	805	The donor nature of the main electron traps in electron-irradiated n-type GaAs
S. E. Acosta-Ortiz and A. Lastras-Martínez	809	Measurements of above-bandgap optical anisotropies in the (0 0 1) surface of GaAs
G. M. Mazzucchelli and R. Zeyher	813	Absence of pinning at finite temperatures in incommensurate solids with infinite-ranged interactions
Hyung-Gon Kim, In-Soen Min and Wha-Tek Kim	819	Phase transition temperature of the a-In ₂ Se ₃ single crystal
A. Gold	823	On the importance of the ladder diagrams for the Anderson localization problem
D. J. Wyble, M. Seel and J. T. Waber	827	Hartree-Fock calculations of crystalline packing of small linear n-alkanes
A. H. M. Shousha	831	The potential barrier height of amorphous MIS tunnel diodes
Tsuyoshi Uda	837	Atomic structure of amorphous silicon
J. R. Chelikowsky and R. Redwing	843	A semi-empirical total energy method for elemental clusters and solids: application to the structural properties of silicon clusters
J. A. Hodges and J. B. Marimon da Cunha	847	Europium charge states in sputtered amorphous $EuPd_x(x = 2.4 \text{ and } 3.0)$
	i	Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications
	iii	Calendar of Solid State Events
NOVEMBER VO	LUM	E 64, NUMBER 6 1987
	C	ONTENTS
General Papers		
C. A. Dimitriadis	851	Transient photoconductivity analysis near a grain boundary of polycrystalline semiconductors
Bogdan M. Anghelov	855	Energy levels and intensity parameters of LiHoP4O12
F. G. Gandra, M. J. Pontes, S. Schultz and S. B. Oseroff	859	ESR of Er ³⁺ , Gd ³⁺ , Yb ³⁺ and Dy ³⁺ in the heavy-fermion compounds UPt ₃ and UBe ₁₃
Hélio Chacham, J. L. A. Alves and M. L. De Siqueira	863	Alkali atoms as acceptor impurities in ZnSe
E. Richter and D. Strauch	867	Lattice dynamics of GaAs/AlAs superlattices

Superconductors and Superconductivity		
L. Degiorgi, E. Kaldis and P. Wachter	873	The optical gap of the superconductor La _{1.85} Sr _{0.15} CuO ₄
Yu Daoqi, Fang Rongchuan, Zhang Qirui, Zhao Yong, He Zhenhui, Zhang Minjian, Xu Cuenyi, Zhang Han, Chen Zuyao and Qian Yitai	877	Raman spectrum of Ba – Y – Cu – O system
X. Z. Wang, M. Henry, J. Livage and I. Rosenman	881	The oxalate route to superconducting YBa ₂ Cu ₃ O _{7-x}
Zhao Yong, Zhang Qirui, Kuan Weiyan, Xia Jansheng, He Zhenhui, Sun Shifang, Chen Zuyao, Qian Yitai and Pan Guoqiang	885	Hall effect in single phase Ba ₂ YCu ₃ O _{7-d}
C. V. Tomy, A. M. Umarji, D. T. Adroja, S. K. Malik, Ram Prasad, N. C. Soni, Ashok Mohan and C. K. Gupta	889	Superconductivity in YBa ₂ (Cu _{1-x} Ag _x) ₃ O _{7-d} oxide system
Ji-hai Xu	893	Upper critical field of high T_c superconductors
E. W. Fenton	897	Superconductivity in heavy-fermion systems
E. R. Gagliano, A. G. Rojo, C. A. Balseiro and B. Alascio	901	Correlation effects in the electronic structure of high T_c superconductors
F. Marsiglio, R. Akis and J. P. Carbotte	905	Combined phonon – exciton mechanism in La _{2-x} Sr _x CuO ₄
C. Taliani, R. Zamboni and F. Licci	911	Bulk phonon modes of $YBa_2Cu_3O_7$ from infrared absorption at $300-30K$
J. B. Sokoloff	915	Applicability of the strong interaction Hubbard model to high T_c superconductors
H. Fjellvåg, P. Karen, A. Kjekshus and J. K. Grepstad	917	X-ray photoelectron spectroscopy study of Y_2BaCuO_5 and $YBa_2Cu_3O_{9-d}$
C		
General Papers (contd.) C. A. M. da Silva, F. P. Livi and A. A. Gomes	925	X-ray diffractometric study of the phase stability in the pseudo-binary compounds $Hf(Fe_{1-x} Si_x)_2$ and $Zr (Fe_{1-x} Si_x)_2$
V. K. Jain, V. S. Yadav and Jitender Singh	929	Host-spin lattice relaxation narrowing in $Rb_2Co(SO_4)_2 \cdot 6H_2O$: Mn^{2+} single crystals
P. Masri	933	Theoretical contribution to the lattice dynamics of gallium antimonide (1 1 0) surface
J. N. Daou, P. Vajda and J. P. Burger	937	α -HoH(D) _x : a new hydrogen-rare earth solid-solution system at low temperatures
I. Pelant, V. Kohlová, J. Hála, M. Ambrož and K. Vacek	939	Direct – indirect gap intervalley scattering of electrons in TlBr electron-hole plasma
Noriyuki Hatakenaka and Susumu Kurihara	943	Resonant tunneling phenomena in ultrasmall Josephson junctions
Yuhei Mori and Susumu Kurihara	947	Chain length dependence of localized vibrational modes around a soliton in <i>trans</i> -polyacetylene
I. Abdulhalim and R. Beserman	951	Raman scattering study of laser induced structural transformations in glassy As ₂ Se ₃

H. Pykacz and Z. Czapla	957	On the kinetics of polymorphic transitions in highly deuterated NH ₄ HSeO ₄ crystals
F. Combet Farnoux and A. P. Hitchcock	961	On the relative contributions of εs and εd final states to M_{23} ionization of $3d$ transition metals
E. R. Hodgson and F. Agulló-López	965	Oxygen vacancy centres induced by electron irradiation in LiNbO_3
I. Schneider	969	F ₂ centers in LiF
F. Cussó, F. Jaque and P. Aceituno	971	Dynamical Jahn - Teller effect in Pb2+ doped alkali halides
K. D. Usadel and B. Schmitz	975	Quantum fluctuations in an Ising spin glass with transverse field
R. Lassnig and W. Boxleitner	979	Tunneling from quasi two-dimensional space charge layers
M. Babiker	983	Helicons in superlattice plasmas of finite layer thickness
E. M. Zub and S. V. Sukhvalo	989	Valence state of Fe, Cu, Cr ions in films of the $Cu_x Fe_{1-x}Cr_2S_4$ solid solutions
S. Pal Choudhuri and G. K. Bichile	993	The electrical conductivity and dielectric behaviour of polycrystalline calcium fluoride
J. Kirschner and S. Suga	997	Spin polarization vector analysis of secondary electrons from ferromagnetic Fe excited by spin-polarized primary electrons
	i	Erratum
	iii	Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications
NOVEMBER VO	LUM	E 64, NUMBER 7 1987
	C	ONTENTS
General Papers		
W. Kleemann, F. J. Schäfer and A. S. Chaves	1001	Crystal optical studies of the phase transitions in KLiSO ₄
S. B. Liao and S. M. Bhagat	1005	Elementary excitations in reentrant magnets and concentrated spin glasses
H. Ebert, H. Winter, B. Gyorffy, D. D. Johnson and F. J. Pinski	1011	Theoretical study of the environmental effects on the hyperfine fields of Ni and Fe in Ni _{0.75} Fe _{0.25}
A. T. Pedziwiatr and W. E. Wallace	1017	Spin phase diagrams for $R_2Fe_{14-x}Co_xB$ systems (R = Y, Gd,Pr,Nd,Tb,Er,Tm)
J. E. Griffiths and G. P. Espinosa	1021	Local structure and phase separation in $Ge_{1-x}Sn_xSe_{2.5}$ photoactive glasses
L. S. Selwyn, W. R. McKinnon and J. R. Dahn	1025	Lack of oxygen substitution in the Chevrel compound Mo ₆ S
A. Alexandrou and M. Cardona	1029	Triply resonant second-order Raman scattering in GaAs

Superconductors and Superconductivity				
	1037	Electron microscopy and neutron diffraction studies of Ba ₂ YCu ₃ O _{7-d} compounds		
J. H. Castilho, P. A. Venegas, G. E. Barberis, 1 C. Rettori, R. F. Jardim, S. Gama, D. Davidov and I. Felner		Evidence for dynamic effects in the ESR spectra of the high 7 superconductor YBa ₂ Cu ₃ O ₇		
Yosuke Saito, Hideaki Sawada, Toshiaki Iwazumi, Yoshihito Abe, Hiroshi Ikeda and Ryozo Yoshizaki	1047	Infrared properties of the oxygen-deficient triperovskit YBa ₂ Cu ₃ O _y compound		
B. Roden, E. Braun and A. Freimuth	1051	On the antiferromagnetism of CuO at 230K and its relevant for high T_c superconductivity		
Wei-ming Que and G. Kirczenow	1053	Antiferromagnetic superexchange and superconductivity is ceramic oxides		
G. Wortmann, C. T. Simmons and G. Kaindl	1057	Mössbauer study of the magnetic high- T_c superconducto $GdBa_2Cu_3O_{7-\delta}$		
E. G. Derouane, Z. Gabelica, JL. Brédas, JM. André, Ph. Lambin, A. A. Lucas and JP. Vigneron	1061	Relationship between oxygen stoichiometry and crystal structure in YBa ₂ Cu ₃ O _{6.5+x} precursors to high-7 superconducting materials		
B. Mettout, D. Limagne, G. Waysand, E. Carpitella, A. de Bellefon and P. Espigat	1069	Diamagnetic contact in superheated superconducting sus pension of microspheres		
M. Gulácsi and Zs. Gulácsi	1075	Charge density waves in heavy fermion systems		
General Papers (contd.)				
Y. Liu and R. Sooryakumar	1081	Discrete coupled plasmon – phonon modes in finite semiconductor multi-layers		
K. M. Reddy, L. Rama Moorthy and B. J. Reddy	1085	Electronic and vibrational absorption spectra in falcondoite		
Nguyen Vinh Quang	1089	The s-splitting and shifts of the bands of Wurtzite structure semiconductors under circularly polarized laser irradiation		
	i	Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications		
NOVEMBER VO	LUMI	E 64, NUMBER 8 1987		
	C	ONTENTS		
General Papers L. Puech	1095	Polarized 3He and CeRu-Si.: comparison of their magneto		

elastic properties

1099 Phase transition sequence in N(CH3)4FeCl4

1103 X-ray absorption studies of unoccupied d-band states in gold and nickel metallic compounds

I. Ruiz-Larrea, A. López-Echarri and M. J. Tello

T. K. Sham

P. Löbl, M. Esguerra, F. Küß, E. Lüscher, 1107 Electrical conductivity and Hall effect of laser quenched G. Fritsch, M. von Allmen, U. Kambli and amorphous Pt, Si1-x alloys near the metal insulator transition A. Schulte D. Fonteyn and G. Pitsi 1113 SDR of copper plastically deformed by torsion at 4.2 K A. M. Simpson, A. Caillé and M. H. Jericho 1117 Elastic and thermal properties of CsNiF, F. Fabre, B. Salanon and J. Lapujoulade 1125 Roughness of Cu (1,1,11): a very anisotropic face Q. Li, C. Y. Li, K. Wu and D. Yin 1133 LaBa₂Cu₃O_{7-y} with zero resistivity at 79 K Superconductors and Superconductivity Z. Gabelica, G. Demortier, G. Deconninck, 1137 Synthesis parameters affecting the bulk composition and F. Bodart, A. A. Lucas, M. Renier, superconducting properties of YBaCuO-based compounds Ph. Lambin, J. P. Vigneron and E. G. Derouane 1141 Pressure - composition isotherms and lattice dilation of E. Salomons, N. Koeman, R. Brouwer, D. G. de Groot and R. Griessen YBa₂Cu₃O_x B. K. Chakraverty, D. Feinberg, Z. Hang and 1147 Squeezed bipolaronic states and high temperature superconductivity in BaLaCuO systems M. Avignon 1153 Ultrasonic investigations on superconducting YBa₂Cu₃O_{7-d} S. Ewert, S. Guo, P. Lemmens, F. Stellmach, J. Wynants, G. Arlt, D. Bonnenberg, samples of different microstructure H. Kliem, A. Comberg and H. Passing 1157 One-dimensional two-band model of superconductivity K. Yamaji General Papers (contd.) 1163 The effect of crystal field splitting on a dilute mixed valence Liang Chen and Tsung-han Lin Tm system Lu Wei, Ye Hongiuan, Yu Zhiyi, 1167 Far-infrared quasi-local modes of ZnTe in CdTe Zhang Suying, Fu Ying, Xu Wenlan and Shen Xuechu 1171 Evidence of a radiation-induced defect level in n-type InSb S. D. Kouimtzi M. C. F. L. Lara and A. C. Nunes 1175 Ground state of a uranium impurity in a metal: inclusion of self-energy terms R. Contini and J. M. Layet 1179 Dispersion study of the Ag(l 1 l) surface plasmon (SP) by means of high resolution electron energy loss spectroscopy (HREELS) J. T. Lopez Navarrete and G. Zerbi 1183 On the problem of π electron delocalisation across sp^3 carbon atoms introduced as defects in polyacetylene 1187 Optical absorption of Co(II) ion in Co_xZn_{1-x}In₂S₄ A. Borghesi, G. Guizzetti, L. Nosenzo, T. Prosperi and S. Viticoli $(0.07 \le x \le 0.46)$ solid solution i Errata iii Author Index Nos 1-8

CONTENTS

General Papers M. Ghedini, S. Armentano, R. Bartolino,

- G. Torquati and F. Rustichelli
- K. Kaneto, F. Uesugi and K. Yoshino
- 1191 X-ray diffractometric study on a Schiff base copper (II) complex with mesomorphic properties
- 1195 Photoinduced absorption in doped poly (3-methylthiophene)

Superconductors and Superconductivity

- M. W. Dirken and L. J. de Jongh
- J.-M. Mariot, V. Barnole, C. F. Hague, V. Geiser and H.-J. Güntherodt
- J. A. Hodges, P. Imbert and G. Jéhanno
- H. Verweij
- J. Hauck
- Z. Gabelica, E. G. Derouane, J. P. Vigneron, Ph. Lambin, M. Renier, A. A. Lucas,
- G. Deconninck, F. Bodart and G. Demortier
- M. Onoda, K. Fukuda, M. Sera and M. Sato
- S. Blumenröder, E. Zirngiebl, H. Schmidt, G. Güntherodt and H. Brenten

- 1201 Magnetic specific heat of Dy3+ in DyBa2Cu3O7-4 compared to the 2-d, $S = \frac{1}{2}$ Ising model prediction
- 1203 Experimental Cu 3d electronic structure in high-T_c La_{1.85}Ba_{0.12}CuO_{4-x} and YBa₂Cu₃O_{8-x} superconductors
- 1209 Magnetic ordering on Yb3+ in YbBa2Cu3O7-x
- 1213 Defect chemistry of YBa2Cu3Ox: strong evidence for the presence of Cu+
- 1217 Bonding and physical properties of Ba₂Gd Cu₃O_{6.5 + x} compared to other oxides
- 1221 Oxygen stoichiometry of YBa₂Cu₃O_{6.5+x} superconducting phase formed and stabilized under various atmospheres : a TG – DTA – DTG study
- 1225 Superconducting phase in La_{3-x}Ba_{3+x}Cu₆O_x system
- 1229 Raman spectroscopy as a function of the oxygen content in YBa₂Cu₃O_{7-x}

General Papers (contd.)

- S. V. Bhoraskar
- Partha Pratim Basu, C. K. Sarkar and D. Chattopadhyay
- P. N. Favennec and R. Coquille
- P. Deppe, M. Rosenberg and K. H. J. Buschow
- J. C. Maurya, A. V. Dixit, V. Manorama and 1235 Effect of reduction of PLZT on carrier lifetime determined by EBIC
 - 1241 Electric field dependence of the hot-electron drift velocity in Hg_{0.8}Cd_{0.2}Te under magnetic quantisation at low temperatures
- J. P. Fillard, A. Baroudi, P. Gall, J. Bonnafe, 1243 Observation of cellular structures of defects in semi-insulating InP-Fe
 - 1247 A Mössbauer spectroscopy study of Nd₅Fe₂B₆
 - i Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications

DECEMBER

VOLUME 64, NUMBER 10

1987

CONTENTS

General Papers

- H. Lettenmayr, W. Jantsch and
- L. Palmetshofer

1253 Temperature induced clustering of Mn in Pb_{1-x}Mn_xTe

1257	Density of electronic states of regular and disordered model chains of acetylene – carbon monoxide copolymers
1261	Photoluminescence of quasi-one dimensional amorphous $Si_{1-x}C_x$:H prepared by the glow discharge method
1267	Lattice dynamics of the high- T_c superconductor La _{2-x} M _x CuO ₄
	Zame dynamics of the mgn 1 (superconductor Za _{2-x} m _x euc ₄
1273	Pressure dependence of the Raman modes in Sr ₂ TiO ₄
, 1279	New organic superconductors κ - and θ -(BEDT-TTF) ₂ I ₃ : transport property
1285	Normal state thermopower of the high temperature superconductor $YBa_2Cu_3O_{6.5+\delta}$
1287	Hall effect measurements on a bulk YBa ₂ Cu ₃ O ₇ sample
1291	Band spectrum for an electron on a Sierpinski gasket in a magnetic field
1297	Experimental study of three ground state components of the hydrogen – oxygen donor in germanium
1305	Monte Carlo study of nonequilibrium phonon effects in GaAs
1309	Structural instabilities of DLA-like fractals at finite temperatures
1313	Partial density of unoccupied states and $L_{2,3}$ -X-ray absorption spectrum of bulk silicon and of the Si (1 1 1) 2×1 surface
1317	Concentration and temperature dependence of the thermal expansion coefficient in the superionic phase of $Cu_{2-x}Se$
1321	Dielectric screening, exciton binding energy and the insulator – metal transition in molecular hydrogen
1325	Tunneling spectroscopy of surface and bulk Landau levels in Si (001) electron accumulation layers
1329	Raman scattering observations of phase transitions and polymerizations in acetylene at high pressure
	1261 1267 1273 , 1279 1285 1287 1291 1297 1305 1309 1313 1317 1321 1325

DECEMBER

VOLUME 64, NUMBER 11

1987

CONTENTS

General Papers

Y. Teraoka

1333 The order – disorder transition of the FCC alloy with the (100) surface

J. A. Bell, W. R. Bennett, R. Zanoni, G. I. Stegeman, C. M. Falco and C. T. Seaton		Elastic constants of Cu/Nb superlattices
M. Wintenberger and Y. Allain	1343	Structure magnetique helicoïdale de CuCrS ₂
Superconductors and Superconductivity		
J. L. Hodeau, C. Chaillout, J. J. Capponi and M. Marezio	1349	Twinning in Ba ₂ YCu ₃ O _{6+x} single crystals
R. J. De Angelis, J. W. Brill, M. Chung, W. D. Arnett, XD. Xiang, G. Minton, L. A. Rice and C. E. Hamrin, Jr.	1353	Studies of the superconducting oxides $Nd_xY_{1-x}Ba_2Cu_3O_y$
K. H. Bennemann, M. Kulić and P. Stampfli	1359	Superconductivity and nonuniform magnetic order in itinerant ferromagnets
C. Geantet, J. Padiou, O. Peña, M. Sergent and R. Horyn	1363	Evidence of superconductivity in Ca _x ²⁺ Mo ₆ S ₈ single crystals at normal pressure
General Papers (contd.)		
W. Ekardt, J. Kühn, D. Lehmann and P. Ziesche	1371	How to make best computational use of rigorous theorems connecting total energy and electrostatic potentials at surfaces of small metal particles
A. Simunek and G. Wiech	1375	σ - and π - bands of potassium-intercalated graphite C_8K studied by angle-resolved X-ray emission spectroscopy (ARXES)
D. Laplaze, I. Youm, G. W. Cohen-Solal and M. Cadene	1379	Spectral response of (CH) _x -CdZnS heterojunction: application of Onsager's theory of geminate recombination
J. S. Nkoma	1383	Phonon polariton modes in semiconductor superlattices
R. R. Mishra and R. M. Singru	1387	Density functional calculation of Compton profiles of metals using phase-space approach
D. Bingham and J. B. Dunlop	1389	The effect of surface cracks and irregularities on reverse domain nucleation in $Nd_2Fe_{14}B$
J. W. Sakai and O.A.C. Nunes	1393	LO-phonon instability due to indirect interband absorption of a laser field in semiconductors
J. R. Senna and S. Das Sarma	1397	Energy loss rate of electrons in quantum wells
M. S. Kushwaha and P. Halevi	1405	Splitting of surface polariton dispersion curves due to resonance with magnetoplasma transition layer
N. P. Lalla, A. K. Singh, R. S. Tiwari and O. N. Srivastava	1409	On the curious electrical resistivity behaviour of $Al_{86}Mn_{14}$ quasicrystalline phase
DECEMBER VO	LUME	64, NUMBER 12 1987
	C	ONTENTS
General Papers		
D. Sieger, H. Tietze, R. Geick, P. Schweiss, W. Treutmann and P. Frings	1413	Magnetic excitations, cluster modes and disorder phenomena in $Rb_2Mn_xCr_{1-x}Cl_4$
H. P. Schölch, M. Weiser, S. Kalbitzer and G. Müller	1419	Effective charge of Li in a-Si:H by transport measurements

		and a
Superconductors and Superconductivity		
Ji-hai Xu	1425	Theory of far-infrared absorption and electron tunneling in high T_c superconductors
S. R. Dharwadkar, V. S. Jakkal, J. V. Yakhmi, I. K. Gopalakrishnan and R. M. Iyer	1429	X-ray diffraction coupled thermogravimetric investigations of $YBa_2Cu_3O_{7\cdots x}$
F. E. Bates and J. E. Eldridge	1435	$Normal-coordinate calculation of the zero-wavevector \\ vibrations of YBa_2Cu_3O_7$
P. K. Davies, J. A. Stuart, D. White, C. Lee, P. M. Chaikin, M. J. Naughton, R. C. Yu and R. L. Ehrenkaufer		Fluorination of superconducting Ba ₂ YCu ₃ O _{9-d}
I. T. Belash, A. D. Bronnikov, O. V. Zhariko and A. V. Palnichenko	v 1445	On the superconductivity of graphite intercalation compounds with sodium
General Papers (contd.)		
U. Behn and G. Gobsch	1451	Observation of room-temperature exciton quenching in GaAs/AlGaAs superlattices by electroreflectance
P. S. Cheng and J. J. Markham	1455	Symmetry properties of the macroscopic scalar potential
K. Winer and M. Cardona	1461	Two-phonon frequency difference absorption in Si and Ge
E. Depraetere, D. Vignaud and J. L. Farvacque	1465	Observation of 1.13 eV polarized luminescence band in plastically deformed GaAs
Jun Takeda and Takenari Goto	1469	Study of the Urbach rule from the exciton luminescence yield in $red\text{-HgI}_2$
E. A. Goremychkin, I. Natkaniec, E. Mühle, H. Müller and P. Frach	1473	Measurements of inelastic neutron scattering and specific heat capacity of CeCu ₅
A. Kotani, K. Okada and M. Okada	1479	Theory of 3d-XPS and L3-XAS in CeF4
G. Mukhopadhyay	1483	On the dynamic local field factor of a uniform electron liquid
J. J. van Kooten, E. G. Sieverts and C. A. J. Ammerlaan	1489	Electron paramagnetic resonance of an Fe-Fe pair in silicon

1495 Vol. 64, Author Index 1-12

